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**From:** Zachary Hopkins [zrhopkin@ncsu.edu]  
**Sent:** 6/3/2018 6:14:41 PM  
**To:** Detlef R. U. Knappe [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=user17c3f77b]  
**CC:** Strynar, Mark [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5a9910d5b38e471497bd875fd329a20a-Strynar, Mark]; Nadine Kotlarz [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=userc79d3fb6]; Chuhui Zhang [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=user88898f79]; McCord, James [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=McCord, James]  
**Subject:** Re: Package Delivery  
**Attachments:** PFESA BP4.sk2; NVHOS.sk2; PFESAByproduct4\_SDS\_050218.pdf; NVHOS\_SDS\_050218.pdf

Here are the structures for the compounds. I have also attached the SDS for each.

On Sun, Jun 3, 2018 at 1:14 PM, Detlef Knappe <knappe@ncsu.edu> wrote:

Hi all,

Can one of you send me the structures and CAS #s (if available) for Nafion byproduct 4 and for NVHOS?

Thank you,

Detlef

On Fri, May 25, 2018 at 10:15 AM, Strynar, Mark <Strynar.Mark@epa.gov> wrote:

Works for me.

Mark

**From:** Detlef Knappe [mailto:knappe@ncsu.edu]

**Sent:** Friday, May 25, 2018 8:30 AM

**To:** Strynar, Mark <Strynar.Mark@epa.gov>

**Cc:** Nadine Kotlarz <nkotlar@ncsu.edu>; Hopkins, Zachary <zrhopkin@ncsu.edu>; Chuhui Zhang <czhang24@ncsu.edu>; McCord, James <mccord.james@epa.gov>

**Subject:** Re: Package Delivery

How about 8:30 at EPA?

Detlef

On Fri, May 25, 2018 at 7:49 AM, Strynar, Mark <[Strynar.Mark@epa.gov](mailto:Strynar.Mark@epa.gov)> wrote:

My Tuesday is good except after 2 PM. My Wednesday is booked full.

Mark

**From:** Detlef Knappe [mailto:[knappe@ncsu.edu](mailto:knappe@ncsu.edu)]

**Sent:** Friday, May 25, 2018 7:37 AM

**To:** Strynar, Mark <[Strynar.Mark@epa.gov](mailto:Strynar.Mark@epa.gov)>

**Cc:** Nadine Kotlarz <[nkotlar@ncsu.edu](mailto:nkotlar@ncsu.edu)>; Hopkins, Zachary <[zrhopkin@ncsu.edu](mailto:zrhopkin@ncsu.edu)>; Chuhui Zhang <[czhang24@ncsu.edu](mailto:czhang24@ncsu.edu)>; McCord, James <[mccord.james@epa.gov](mailto:mccord.james@epa.gov)>

**Subject:** Re: Package Delivery

Should we meet to discuss strategy for QQQ method development? Looks like Zack and Chuhui need similar methods. Chuhui would like to add F53B to the ether method.

My Tuesday is reasonable. My Wednesday afternoon, too.

Detlef

On Fri, May 25, 2018, 7:29 AM Strynar, Mark <[Strynar.Mark@epa.gov](mailto:Strynar.Mark@epa.gov)> wrote:

Yes we do. These are known as PMPA and PEPA from Chemours. These are still both quite pronounced in the creek water that was the old effluent stream.

Mark

**From:** Detlef Knappe [mailto:[knappe@ncsu.edu](mailto:knappe@ncsu.edu)]

**Sent:** Thursday, May 24, 2018 7:25 PM

**To:** Nadine Kotlarz <[nkotlar@ncsu.edu](mailto:nkotlar@ncsu.edu)>

**Cc:** Zachary Hopkins <[zrhopkin@ncsu.edu](mailto:zrhopkin@ncsu.edu)>; Chuhui Zhang <[czhang24@ncsu.edu](mailto:czhang24@ncsu.edu)>; Strynar, Mark <[Strynar.Mark@epa.gov](mailto:Strynar.Mark@epa.gov)>; McCord, James <[mccord.james@epa.gov](mailto:mccord.james@epa.gov)>

**Subject:** Re: Package Delivery

Hi all,

Do we have these compounds?

I know we have the linear methoxy versions, but I don't know whether Chemours sent the branched isomers.

Best,

Detlef

On Mon, May 7, 2018 at 5:18 PM, Nadine Kotlarz <[nkotlar@ncsu.edu](mailto:nkotlar@ncsu.edu)> wrote:

Zack,

The standards we recently received from Chemours were at 1000 ng/uL in water. I prepared 10 ng/uL aqueous stocks for each compound. Then I prepared a 1 ng/uL combined stock with:

1. PFO2HxA
2. NVHOS
3. PFO5DoA
4. PFO4DA
5. PFO3OA
6. PEPA
7. PMPA
8. Nafion byproduct 4

in water.

I already had a 1 ng/uL combined stock of GenX, PFMOAA, Nafion byproduct 1 and Nafion byproduct 2 in methanol. We prepared these standards with solids from Chemours a while ago. We decided we will make our calf serum calibration curves by dosing in the methanol and aqueous mixtures separately.

You're welcome to use any of the dilutions you want. They're stored in the cabinet to the bottom left of Mark's work space in the lab with the triple quad.

Nadine

On Wed, May 2, 2018 at 2:16 PM, Nadine Kotlarz <[nkotlar@ncsu.edu](mailto:nkotlar@ncsu.edu)> wrote:

Sounds good. I'll bring the standards over to EPA tomorrow morning.

On Wed, May 2, 2018 at 2:14 PM, Detlef Knappe <[knappe@ncsu.edu](mailto:knappe@ncsu.edu)> wrote:

Cool. And the PFO5DoA is included! Great for the blood work, Nadine :) My understanding is that Chemours didn't send this compound to Mark. Let's make sure it gets included in the method development.

Detlef

Detlef

On Wed, May 2, 2018, 9:15 AM Zachary Hopkins <[zrhopkin@ncsu.edu](mailto:zrhopkin@ncsu.edu)> wrote:

Detlef,

Picked the standards up. We have the following now.

PFHO2HxA

PFMOAA

PFO5DoA

PFO4DA

PFO3OA

PEPA

PMPA

PFESA Byproduct 1

PFESA Byproduct 2

PFESA Byproduct 4

NVHOS

Best,

Zack

On Wed, May 2, 2018 at 10:04 AM, Detlef Knappe <[knappe@ncsu.edu](mailto:knappe@ncsu.edu)> wrote:

Zack,

See below.

The standards!

Detlef

----- Forwarded message -----

From: Barbara Simerson <[bsimers@ncsu.edu](mailto:bsimers@ncsu.edu)>

Date: Wed, May 2, 2018, 6:55 AM

Subject: Package Delivery

To: Detlef Knappe <[knappe@ncsu.edu](mailto:knappe@ncsu.edu)>

A package from Chemours was received addressed to you.

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Barbara Simerson

Bookkeeper

North Carolina State University  
Civil, Construction, and Environmental Engineering  
2501 Stinson Drive/ 208 Mann Hall  
Campus Box 7908  
Raleigh, NC 27695  
Phone: 919-515-7628  
Fax: 919-515-7908

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Best,

Zack Hopkins

PhD student

Graduate Research Assistant

Mann Hall 319A Office

Civil, Construction, and Environmental Engineering

North Carolina State University

Raleigh, NC 27695

[zrhopkin@ncsu.edu](mailto:zrhopkin@ncsu.edu)

301-518-7697

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Best,  
Zack Hopkins  
PhD student  
Graduate Research Assistant  
Mann Hall 319A Office  
Civil, Construction, and Environmental Engineering  
North Carolina State University  
Raleigh, NC 27695  
[zrhopkin@ncsu.edu](mailto:zrhopkin@ncsu.edu)  
301-518-7697